In the claims:

Please amend claims 1, 11, 17, and 20 as follows:

1. (currently amended) A voltage sensor circuit comprising:

a source-input node having a source-input voltage that is varied by a voltage source, the voltage sensor circuit sensing the source-input voltage of the source-input node;

~~a stable node having a stable voltage that is relatively insensitive to changes in a supply voltage;~~

a first current source, responsive to the source-input voltage, for generating a first current that varies with variations in the source-input voltage;

a first resistor, coupled to the first current source and receiving the first current, for generating a compare-input voltage on a compare-input node in response to the first current, the compare-input voltage varying with variations in the first current;

a second current source for generating a second current that is insensitive to variations in the source-input voltage;

a second resistor, coupled to the second current source and receiving the second current, for generating a reference voltage on a reference node in response to the second current, the reference voltage ~~not~~ varying with variations in the second current;

a stable node, coupled to the first current source and coupled to the second current source, the stable node having a stable voltage that is relatively insensitive to changes in a supply voltage; and

a comparator coupled to the compare-input node and the reference node, for comparing the compare-input voltage to the reference voltage and generating an output voltage at an output node that indicates when the compare-input voltage is above the reference voltage.

2. (withdrawn) The voltage sensor circuit of claim 1 wherein the first current source is a substrate-sensing transistor having a substrate node driven by the source-input voltage and a gate driven by a constant bias voltage, the substrate-sensing transistor conducting the first current between the stable node and the compare-input node,

wherein the first current through the substrate-sensing transistor varies with variations in the source-input voltage,

whereby a substrate-sensing current source generates the first current.

3. (withdrawn) The voltage sensor circuit of claim 2 wherein the substrate-sensing transistor is a p-channel transistor and the substrate node is an N-well.

4. (withdrawn) The voltage sensor circuit of claim 3 wherein the constant bias voltage is a ground.

5. (withdrawn) The voltage sensor circuit of claim 4 wherein the second current source is a second p-channel transistor having a substrate node connected to the stable node and a gate driven by the constant bias voltage, the second p-channel transistor conducting the second current between the stable node and the reference node.

6. (withdrawn) The voltage sensor circuit of claim 5 wherein a cross-over voltage of the source-input voltage that causes the output voltage to change states varies less than +/- 8% over a temperature range from -40 to +85 degrees C.

7. (original) The voltage sensor circuit of claim 1 wherein the first current source comprises:

a first mirror transistor having a channel that conducts the first current between the stable node and the compare-input node in response to a first gate node;

a first setting transistor, with a gate connected to the first gate node, having a channel that conducts a first setting current between the stable node and the first gate node;

a first sensing transistor having a channel that conducts a portion of the first setting current from the first gate node, the first sensing transistor having a gate connected to the source-input voltage;

wherein the second current source comprises:

a second mirror transistor having a channel that conducts the second current between the stable node and the reference node in response to a second gate node;

a second setting transistor, with a gate connected to the second gate node, having a channel that conducts a second setting current between the stable node and the second gate node; and

a second sensing transistor having a channel that conducts a portion of the second setting current from the second gate node, the second sensing transistor having a gate connected to a fixed voltage.

8. (original) The voltage sensor circuit of claim 7 wherein the fixed voltage applied to the gate of the second sensing transistor is the stable voltage.

9. (original) The voltage sensor circuit of claim 8 wherein the first and second mirror transistors and the first and second setting transistors are p-channel transistors; wherein the first and second sensing transistors are n-channel transistors.

10. (original) The voltage sensor circuit of claim 9 wherein a cross-over voltage of the source-input voltage that causes the output voltage to change states varies less than +/- 4% over a temperature range from -40 to +85 degrees C.

11. (currently amended) The voltage sensor circuit of claim 7 further comprising:

a voltage generator for generating the stable voltage on the stable node that is independent ~~of a supply voltage~~ of the supply voltage to the comparator.

12. (original) The voltage sensor circuit of claim 11 wherein the voltage generator is a band-gap voltage generator.

13. (original) The voltage sensor circuit of claim 12 wherein the comparator is powered by the supply voltage.

14. (withdrawn) A substrate-sensing voltage sensor comprising:

a voltage generator for generating a stable voltage on a stable node, the stable voltage being relatively insensitive to variations in a supply voltage;

a comparator that generates an output by comparing voltages of a compare-input node and a reference node;

a first transistor having a channel connected between the stable node and the compare-input node, with a gate connected to a bias voltage and a substrate connected to a source-input voltage that is varied by a voltage source;

a first resistor connected between the compare-input node and a ground;

a second transistor having a channel connected between the stable node and the reference node, with a gate connected to the bias voltage; and

a second resistor connected between the reference node and the ground,

whereby the source-input voltage from the voltage source is sensed by substrate-sensing of the first transistor.

15. (withdrawn) The substrate-sensing voltage sensor of claim 14 wherein the first transistor is a p-channel transistor with a source connected to the stable node, a drain connected to the compare-input node, and the source-input voltage connected to a n-type substrate or an N-well under the first transistor;

wherein the second transistor is a p-channel transistor with a source connected to the stable node, a drain connected to the reference node, and the stable voltage connected to a n-type substrate or an N-well under the second transistor.

16. (withdrawn) The substrate-sensing voltage sensor of claim 15 wherein the bias voltage is the ground,

whereby the first and second transistors have grounded gates.

17. (currently amended) A temperature-insensitive voltage sensor comprising:

an input voltage from a varying voltage source;

compare means, having a first input and a second input, for comparing voltages on the first and second inputs to generate an output;

first resistor means, receiving a first current, for generating a compare voltage on the first input of the compare means;

first mirror transistor means, having a gate connected to a first gate node, for generating the first current from a stable node to the first input of the compare means and to the first resistor means;

first current-source transistor means, having a gate and a drain connected to the first gate node and a source connected to the stable node, for generating a first gate voltage on the first gate node;

first sensing transistor means, having a gate driven by the input voltage, for varying a first sink current from the first gate node in response to the input voltage;

second resistor means, receiving a second current, for generating a reference voltage on the second input of the compare means;

second mirror transistor means, having a gate connected to a second gate node, for generating the second current from the stable node to the second input of the compare means and to the second resistor means;

second current-source transistor means, having a gate and a drain connected to the second gate node and a source connected to the stable node, for generating a second gate voltage on the second gate node; and

second sensing transistor means, having a gate driven by a constant voltage, for generating a second sink current from the second gate node~~,~~

~~whereby variations in the first current due to temperature variations are compensated by variations in the second current that are due to the temperature variations.~~

18. (original) The temperature-insensitive voltage sensor of claim 17 further comprising:

stable-voltage generator means for generating a stable voltage on the stable node, the stable voltage being insensitive to a supply voltage to the compare means.

19. (original) The temperature-insensitive voltage sensor of claim 18 wherein the first and second sensing transistor means are n-channel transistors having grounded sources;

wherein the first and second mirror transistor means are p-channel transistors having sources connected to the stable node;

wherein the first and second current-source transistor means are p-channel transistors having sources connected to the stable node and each having a drain shorted to a gate.

20. (currently amended) The temperature-insensitive voltage sensor of claim 19 wherein the constant voltage to the gate of the second sensing transistor means ~~is a the~~ is the stable voltage.